

G. U. THOMPSON.
CLEANING MACHINE FOR BLACKBOARD ERASERS.
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1,052,697.

Patented Feb. 11, 1913.

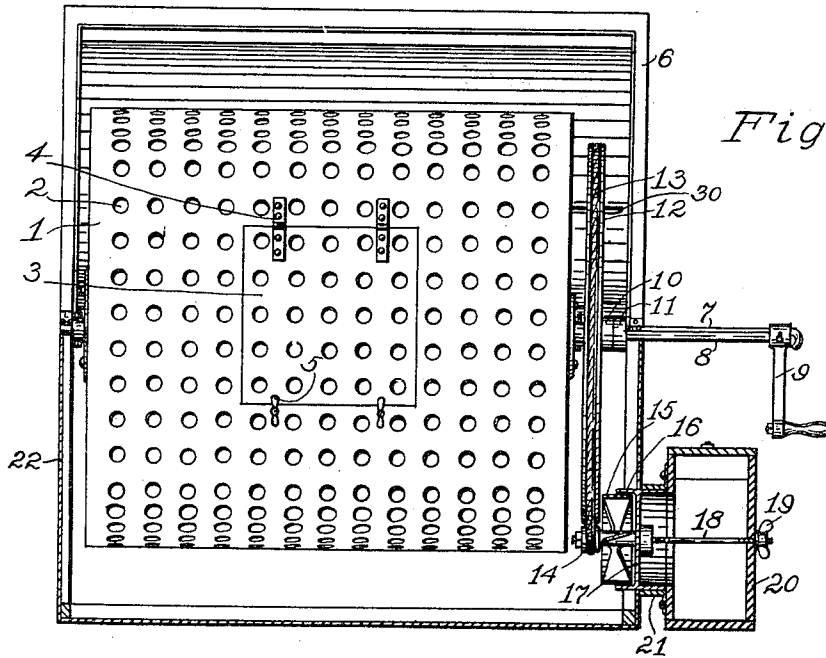


Fig. 1.

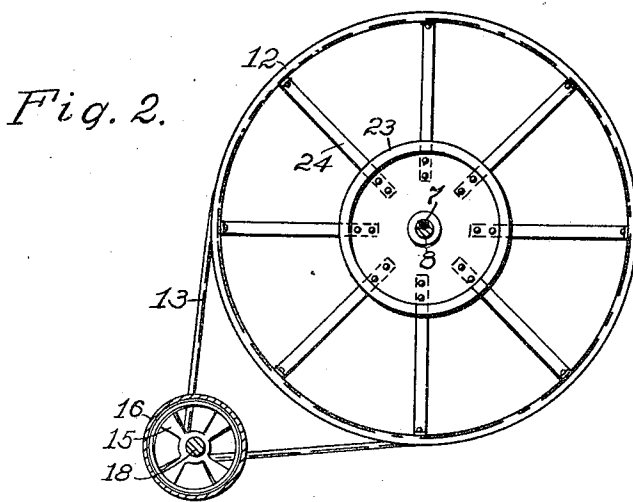


Fig. 2.

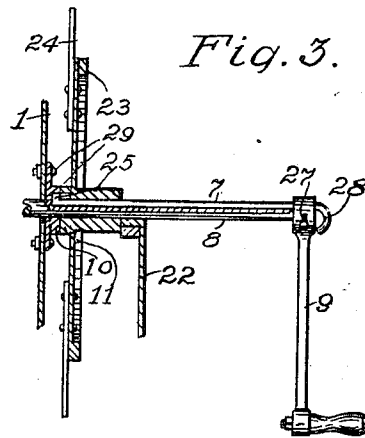


Fig. 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

GRANT U. THOMPSON, OF CEDAR FALLS, IOWA.

CLEANING-MACHINE FOR BLACKBOARD-ERASERS.

1,052,697.

Specification of Letters Patent.

Patented Feb. 11, 1913.

Application filed May 24, 1912. Serial No. 699,545.

To all whom it may concern:

Be it known that I, GRANT U. THOMPSON, a citizen of the United States of America, and a resident of Cedar Falls, Blackhawk county, Iowa, have invented certain new and useful Improvements in Cleaning-Machines for Blackboard-Erasers, of which the following is a specification.

My invention relates to improvements in cleaning machines for blackboard erasers, and the object of my improvement is to provide for an inclosed rotary cleaning-drum, means for withdrawing dust-laden air from its inclosure, with means for actuating said air-withdrawing means which may be operated conjointly with said drum, or may be disconnected therefrom for separate and independent operation. This object I have accomplished by the mechanism which is hereinafter described and claimed, and which is illustrated in the accompanying drawings, in which:

Figure 1 is a medial vertical longitudinal section of the inclosing box, the hinged cover thereof being tilted open, containing my improved rotary cleaning drum with its auxiliary air-withdrawing apparatus and their separable connections, the said apparatus and its dust-collecting receptacle being also shown in similar section. Fig. 2 is a detail side elevation of said rotary cleaning-drum driving-pulley and the driven-pulley which is actuated thereby and which in turn actuates said air-withdrawing apparatus, the shafts of both pulleys being sectioned away. Fig. 3 is a detail longitudinal section of the separable connecting-means between the large driving-pulley and the rotary cleaning-drum, with parts broken away.

Similar numerals of reference denote corresponding parts throughout the several views:

The inclosure of my cleaning-drum 1 is a box 22 having a hinged cover 6 in whose arched top is a longitudinal air-inlet slot 30. Mounted removably in bearings on the upper transverse edges of said box is a drum-shaft 8 on which the hubs 29 of the drum 1 are rotatably mounted, the face 10 of the right-hand hub 29 having a socket adapted to receive therein the left-hand end of a slide-bar 7 with its projecting head 25, said bar being slidably seated longitudinally in a groove in said drum-shaft, with its outer end downturned to provide a finger-hold 28. Secured on said drum-shaft 8 is a rela-

tively large pulley 12 carrying a belt 13 which drives a smaller pulley 14 integral with a fan-wheel 15 rotatable on a fixed shaft 18. The left-hand face of the hub 11 of said pulley 12 is provided with a socket adapted to receive therein the projection 25 of said slide-bar 7 when the latter is slid to the right enough to clear the socket in the drum hub 29. The said pulley 12 comprises a rim connected by spokes 24 to a central disk 23, but may be otherwise formed if desired. On the right-hand end of the drum shaft 8 without the box 22 a crank 9 is secured removably by means of a set-screw 27.

The rotary drum 1 has imperforate heads (not shown) and a circumferential covering which may be of metal supplied with a plurality of orifices 2 to permit the dust to escape from the drum into said box. However, the drum may be otherwise intersticed as desired without departing from the principle of this invention.

The drum 1 is provided in its circumferential periphery with an opening adapted to be closed by a door 3 having hinges 4, and secured by means of turn-buttons 5. Blackboard erasers may be deposited through the opening into the drum, the door closed, the drum rotated by means of the crank 9, when the slide-bar projection has been slid to the left to engage the socket in the hub 29, and the dust produced from the operation will be voided through the drum-orifices 2 into the box 22. The fan-wheel 15 is seated in the inner end of a cylinder 16 which is mounted in an outlet-opening in the wall of said box 22 to project both inwardly and outwardly therefrom. The fan-wheel is rotatably mounted on a fixed shaft 18 which is seated in a central boss of a cross-bar 17 of said cylinder and fixed thereto. The outer part of the shaft 18 passes through a dust-collecting receptacle 20 without the box 22, and is secured thereto by means of a thumb-nut 19, detachably. Said receptacle has a circular opening with a flanged rim 21 about it adapted to act as a sleeve to fit removably over the outer end of the cylinder 16. Said receptacle has an air-vent (not shown) at its farther end beyond a medial partition, the latter open at the top to permit the passage of air, while arresting the dust therein. In operation, after the drum has been rotated enough to thoroughly clean the chalk-dust from the erasers contained therein,

the said pulleys simultaneously operating the fan-wheel 15 to withdraw the dust-laden air from the box 22 into the receptacle 20, the slide-bar 7 may be slid to the right to
 5 disengage its projecting head 25 from the drum-hub, thus permitting the drum to come to a stop. The box 22 still being full of dust-laden air, it is desirable to remove it before opening the box, therefore the
 10 crank 9 is to be continuously rotated after the drum 1 has come to a stop to cause the fan-wheel 15 to continuously withdraw the dust from the box into the said receptacle 20, until the constantly renewed air enter-
 15 ing the box from its inlet 30 has carried off all the floating dust in said box. This last operation is made permissible by reason of the separable connection between the hubs of the pulley 12 and of the drum 1, which
 20 permits the action as described. The box-cover 6 may then be lifted, and no dust will arise from the box into the room.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is:

1. In combination, a hollow orificed drum loosely mounted on a rotary shaft, an inclosing box for said drum having an air inlet and an air outlet, air-withdrawing-
 30 means in communication with said air-outlet, a driving-pulley secured on said drum-shaft, a driven-pulley adapted to actuate said air-withdrawing means, a belt connect-
 35 detachably connecting said drum to said driving-pulley.

2. In combination, a hollow orificed drum loosely mounted on a rotary shaft, an inclosing box for said drum provided with an air
 40 inlet and an air outlet, air-withdrawing means seated in said air-outlet and actuated by a driven-pulley, a driving-pulley secured on said drum-shaft, a belt connecting said

pulleys, means for detachably connecting said drum to said driving-pulley, and means 45 for rotating said shaft.

3. In combination, a hollow orificed drum loosely mounted on a rotary shaft and provided with an opening having a closure, said drum being mounted within a box 50 having a closure with an air inlet in the said closure, said box having an air-outlet in its wall, air-withdrawing means seated in communication with said air-outlet, a detachable receptacle adapted to receive from
 55 said air-withdrawing means, a driving-pulley on said drum-shaft, secured thereto, a driven pulley adapted to actuate said air-withdrawing means, a belt connecting said pulleys, and means for detachably connect- 60 ing said drum to said driving-pulley.

4. In combination, a hollow orificed drum loosely mounted on a rotary shaft and provided with an opening having a closure, said drum being mounted within a box having
 65 an air inlet and an air outlet, air-withdrawing means in communication with said air-outlet, a receptacle adapted to receive from said air-withdrawing means, a driving-pulley secured on said drum-shaft, said shaft 70 being longitudinally grooved with a slide bolt seated in the groove and having its end nearest the drum provided with a projection, the abutting faces of the driving-pulley
 75 hub and the drum-hub having registering sockets adapted to receive the projection on said slide-bar slidably to detachably connect said drum-hub to said pulley-hub when said bar is slid in one direction.

Signed at Waterloo, Iowa, this 7th day of 80 May, 1912.

GRANT U. THOMPSON.

Witnesses:

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 G. C. KENNEDY.